

CLAIMS

1. A process for extracting oxygenates from a hydrocarbon stream, the process including the step of extracting the oxygenates in a liquid-liquid extraction process using a mixture of methanol and water as the solvent.
2. The process according to claim 1, wherein an extract from the liquid-liquid extraction is sent to a solvent recovery column from which a tops product comprising methanol, olefins and paraffins is recycled to the extraction step, thereby enhancing the overall recovery of olefins and paraffins.
3. The process according to claim 2, wherein the aqueous phase of a bottoms product from the solvent recovery column is recycled to the extraction step.
4. The process according to any one of the preceding claims, wherein the extraction step takes place in an extraction column.
5. The process according to any one of the preceding claims, wherein the solvent introduced to the extraction step has a water content of more than 3% by weight.
6. The process according to claim 5, wherein the solvent has a water content of from 5% - 15% by weight.
7. The process according to any one of the preceding claims, wherein the olefin/paraffin ratio of the hydrocarbon stream is substantially preserved after the extraction step.
8. The process according to any one of claims 4 - 7, wherein a raffinate from the extraction column is sent to a stripper column from which a hydrocarbon feed stream containing more than 90% by

weight olefins and paraffins and less than 0.2% by weight oxygenates exits as a bottoms product.

9. The process according to claim 8, wherein the bottoms product contains less than 0.02% by weight oxygenates.
10. The process according to any one of the preceding claims wherein the recovery of olefins and paraffins over the oxygenate extraction step is greater than 70%.
11. The process according to claim 10, wherein the recovery of olefins and paraffins over the oxygenate extraction step is greater than 80%.
12. The process according to any one of claims 2 – 11, wherein the solvent recovery column includes an extract inlet, an upper overhead outlet and a lower bottoms outlet, with a side-draw located above the extract feed point and below the overheads outlet.
13. The process according to any one of the preceding claims wherein the hydrocarbon stream is the fractionated condensate product from a low temperature Fischer-Tropsch reaction.
14. The process according to any one of the preceding claims wherein the hydrocarbon stream contains 5 – 15% by weight oxygenates.
15. The process according to any one of the preceding claims wherein the hydrocarbon stream is fractioned in the C₈ to C₁₆ range.
16. The process according to claim 15 wherein the fractionated hydrocarbon condensate product is in the C₁₀ to C₁₃ range.